# Friedrich Gustav Lang <br> The Architecture of Acts II: Stichometric Analysis 

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The results presented here have been discovered over a longer period of time. While preparing for my exams in 1966, I began to count the pages of the German translation in order to find a possible relation between a rough outline of Acts and the sizes of the book's parts. Over the years I have refined the procedure step by step because I had to convince first myself that an ancient author like Luke was possibly able to design his book in a highly sophisticated formal way. Firstly I will recall the steps leading me to the stichos and the Fibonacci numbers. Then the three main parts of Acts will be analyzed stichometrically. Finally we will look at the whole of the book of Acts and the proportions between the main sections.

## 1. How the stichometric approach has been developed

During decades of research, I experienced several methodological changes. When I began to study protestant theology in 1961, we used the old NestleAland edition of the Novum Testamentum graece $\left(1960^{24}, 1963^{25}\right)$. In the meantime the UBS-edition has appeared, the Greek New Testament of the United Bible Societies, now in the 5th edition of 2014, its text being the same as in NestleAland since $1978^{26}$, now in the 28th edition of 2012. After the personal computer was invented, we were able to see the Greek text on our screens and, through the internet, even the scans of ancient manuscripts. All this has influenced my studies of Acts.

### 1.1 From Nestle lines to lines of GNT

In a seminar on Acts I taught at Rice University in Houston, Texas, in 1973, we recognized the concentric structure of the composition, and I observed that three main parts of Stephen's speech (7:2-16, 17-34, 35-50) are of the same size, measuring 41-42 Nestle lines each. I realized for the first time that counting lines could make sense, though I did not notice any remarkable proportions between the sizes of main sections and subsections at that time. ${ }^{1}$

[^0]Back in Germany again, I taught Bible studies ("Bibelkunde") as instructor at the Tübingen Stift ("Stiftrepetent") and began to count Nestle lines throughout the New Testament. Especially in Mark, I discovered that the second main section located around the Sea of Galilee (3:7-8:21) is exactly one third of the entire book, measuring 505 of 1515 Nestle lines, and that it is divided into two parts built in parallel with the same length (3:13-6:6a; 6:6b-8:21), measuring 246 and 245 Nestle lines. An extensive analysis of Mark's composition was published in 1977 and included some observations on equal sized sections found in Romans and John. ${ }^{2}$

The new Nestle-Aland edition of 1978 turned out to be no longer practical for counting lines because the text had now been divided into many more paragraphs. Since then I have used the UBS edition, whose paragraphing provided an excellent starting point for my own structuring. In 1983, by analyzing Matthew, I came across the ratio of $147 / 240$ UBS $^{3}$ lines $=0.6125$ for 8:1-9:34 / 5:1-7:29 (Jesus' first journey in Galilee / Sermon on the Mount). This is a ratio very close to the irrational golden section $=0.6180339 \ldots$ Was this a ratio by intention? If so, how was an ancient author able to realize such a proportion?

### 1.2 Stichos and Fibonacci numbers

The ancient publishers used a standard line for measuring Greek prose, the stichos of 15 or 16 syllables. While studying Acts again in 1985/86, I happened to notice that passages of 18 UBS lines equal about 21 stichoi of 15 syllables - a wonderful number, for 21 can be seen not only as $3 \times 7$, but also as $8+13$. The numbers 8,13 , and 21 belong to the so-called Fibonacci sequence, in which each number is the sum of the two preceding numbers and the ratio of two neighboring numbers is approximating the golden ratio. I worked out a detailed outline of Acts very close to the one presented here and tried to reconstruct the stichoi numbers of all passages by multiplying the UBS lines by the factor $21 / 18$. Acts seemed to be designed very elaborately by applying a modulus of 21 stichoi.

During the next years, I tried to confirm my findings. On the one hand I collected all available information about the stichos, and there were quite a few proofs showing it was also used by the authors. On the other hand I analyzed other NT writings in the same way, and now it was possible to divide the Greek text on a computer screen into lines of 15 syllables and to compare the sizes of the sections.

In 1996, I dedicated an extensive study on Ephesians to Ernst Käsemann and Martin Hengel on the occasion of their 90th and 70th birthdays. The results could eventually be published in articles on stichometry (1999) and Ephesians

[^1](2004). ${ }^{3}$ Through a detailed analysis of this epistle I discovered that the stichoi numbers of paragraphs given by $\mathrm{UBS}^{3}$, when rounded up, reveal a well-balanced concentric structure based on a modulus of 21 stichoi and on its components of 13 and 8 , the stichos being defined as 15 syllables. When writing the article, I decided to adjust the USB text to the reconstructed outline by changing the paragraphing rather than the words. Therefore the paragraphing has been modified seven times, ${ }^{4}$ the text only once - by deleting the bracketed address [ $\dot{\varepsilon} v{ }^{~}$ E $\varphi \varepsilon ́ \sigma \varphi$ ] in $1: 1$ which is often regarded as secondary. ${ }^{5}$

### 1.3 Tentative reconstruction of original paragraphing

Since then, I have changed my mind. In Ephesians I have seen to my own surprise that a few minimal text adjustments allow a paragraphing matching the outline of the letter perfectly. In a revised version, I have now modified the UBS paragraphing six times, and the text three more times. ${ }^{6}$

We do not know how exactly an ancient author wanted to realize a previously planned formal structure (dispositio) while working on the wording (elocutio). With my analyses, however, I want to demonstrate that it is possible to trace the UBS text back to a precisely elaborated plan. ${ }^{7}$ In my understanding, an author can be compared to an architect designing an outstanding edifice. The more writings analyzed successfully in this way, the more the stichometric approach stands the test.

In 2009 my revised analysis of Mark appeared, now based on the stichos of 15 syllables. Since 2010 comparable analyses of all 27 books of the New Testament have been successively presented under www.stichometrie.de, all in a highly condensed table format. In several articles I tried to explain my findings in a more extensive form. This second article on the architecture of Acts aims to corroborate the analysis of content (part I) by means of stichometry.

[^2]
## 2. Prologue and first main section (1:1-11:18): Beginnings in Jerusalem

The three paragraphs of the prologue (1:1-3, 4-8, 9-11) add up to $9+15+10=$ 34 stichoi. ${ }^{8}$ This is also a Fibonacci number and it seems that it is used for the overall modulus of the whole book. In my first stichometric analysis of 1985/86 I had supposed that the modulus would be 21 stichoi. In the meantime I have found that the number 34 fits much better to the stichoi numbers counted in Acts. It seems to be also used in the other six books of the NT longer than 1000 stichoi (the four gospels, Romans, and Revelation). However, 21 was still used as modulus of several sections in Acts.

### 2.1 The first congregation until Pentecost (1:12-2:47)

The major part about the election of a twelfth apostle consists of three paragraphs (1:12-14, 15-22, 23-26) measuring $11+24+10=45$ stichoi, and the major part about Pentecost of five subsections in seven paragraphs (2:1-4, 5-13, 14-$36,37-43 a, 43 b-47)$ measuring $10+21+63+18+13=125$ stichoi. Both major parts together add up to $170=5 \times 34$ stichoi. ${ }^{9}$

In this counting, the UBS text has been enlarged by 17 syllables in 2:43-44, following Codex Sinaiticus ( $(\mathbb{)}$ ) and some others: "43b Many wonders and signs
 $\pi \alpha ́ v \tau \alpha \varsigma .{ }^{44} \mathrm{~K} \alpha i$ all who believed were together ..." A caesura after 2:43a, also marked in Codex $א \boldsymbol{K}$ by a point above the line, ${ }^{10}$ can well explain the double "awe" ( $\phi$ ó $\beta$ os): the one in 2:43a refers still to the Pentecost day, the one in $2: 43$ b is part of the summary about the following period of apostolic activity "in Jerusalem" when "awe was great upon all. ${ }^{44}$ And ...". The longer version is lectio difficilior in this understanding, for the shorter version is easier since it avoids the double фóßos. ${ }^{11}$ The two paragraphs 2:37-43a and 2:43b-47 measure $18+13$ $=31$ stichoi, the same size as 2:1-4 and 2:5-13, the two paragraphs at the beginning, measuring $10+21=31$ as well. Peter's speech in $2: 14-36$ is thus placed exactly in the center; its three parts measuring $23+19+21=63$ stichoi are about half the size of the chapter.

The ratio between the two first major parts, measuring $45=5 \times 9$ and $125=$ $5 \times 25$ stichoi, is the same as between the first and the two other paragraphs of the

[^3]prologue (1:1-3, 4-11) being $9 / 25$, perhaps by intention. The two numbers are squares of two Fibonacci numbers: $3 \times 3 / 5 \times 5$.

### 2.2 The first conflicts in Jerusalem (3:1-8:3)

The three following major parts are also designed carefully by applying Fibonacci and other simple ratios. They belong together not only in their content, but also in their sizes and sums.

The first conflict with the Synedrium (3:1-4:31) about the healing of the lame man at the temple's gate consists of five subsections. The second and fourth of them, Peter's speech and the trial against Peter and John (3:11-26; 4:5-22), add up to $47+49=96$ stichoi. The three other subsections on the healing itself, the arrest of the two apostles, and the prayer of the congregation (3:1-10; 4:1-4, 2331) cover $26+9+25=60$ stichoi together. ${ }^{12}$ The ratio between the two subtotals is a Fibonacci ratio: $60 / 96=12 \times 5 / 12 \times 8$, the total being $156=12 \times 13$ stichoi (exactly 154:07).

The next major part (4:32-6:7) embraces the internal conflicts of the growing congregation and the second trial in the Synedrium following the arrest of all apostles. The first three of the five subsections (4:32-35; 4:36-5:11; 5:12-16) measure $12+34+14=60$ stichoi, the last two scenes $(5: 17-42 ; 6: 1-7) 74+22$ $=96$ stichoi. ${ }^{13}$ The ratio is $60 / 96$ again or $5 / 8$, the total is $156=12 \mathrm{x} 13$ stichoi as well (exactly 151:06).

The third major part ( $6: 8-8: 3$ ) is especially well-proportioned. Two small subsections (6:8-15; 7:54-8:3) frame the extensive apologia of Stephen (7:1-53). The first subsection, the accusation against Stephen, measures 21 stichoi, the last one with his stoning measures 27 in three short paragraphs, the total being $48=6 \times 8$ stichoi. ${ }^{14}$ Stephen's speech is divided into seven paragraphs in the UBS text. If we rearrange them to only three, ${ }^{15}$ the two narrative parts on the patriarchs and on Moses (7:1-16, 17-34) are of exactly the same size, as I had already noticed on the basis of Nestle lines in 1973; they measure 44:10 and 44:11 or 45 stichoi each, together $90=18 \times 5$. The last paragraph (7:35-53), containing argumentatio and peroratio as usual in ancient rhetoric, is of a corresponding size, being exactly $54: 00=18 x 3$ stichoi. The entire speech adds up then to $144=$

[^4]18x8 stichoi or three times the size of the surrounding subsections, while the entire major part adds up to $192=24 \times 8$ stichoi. In this context it may not be by chance that the first two paragraphs of the last subsection (7:54-8:1a) are $10+8$ $=18$ stichoi, the third paragraph being 9 .

Summing up the three central major parts, the first two are $12 \times 13+12 \times 13=$ $24 \times 13$ stichoi together, all three are $24 \times 13+24 \times 8=24 \times 21$, and one recognizes remarkable proportions with the Fibonacci numbers $8,13,21$.

### 2.3 The mission beyond Jerusalem (8:4-9:43)

The sixth major part is composed of three subsections containing separate stories. The first one on Philip's mission consists of three paragraphs: on Philip in Samaria, on Peter's and John's visit there, and on Philip baptizing the Ethiopian Eunuch (8:4-13, 14-25, 26-40). They measure $23+29+40=92$ stichoi.

This result, necessary for the total of this major part, becomes possible only if the UBS text of the subsection is reduced to three paragraphs and shortened by 8 syllables. ${ }^{16}$ In $8: 5$ the bracketed article [ $\tau \eta ̀ v$ ] before "city of Samaria" has been deleted because of "internal considerations" backed by codices C D $\Psi$ etc. against the strong "external evidence" of codices $\mathfrak{P}{ }^{74} \aleph$ A B etc. ${ }^{17}$ In 8:10 I suggest deleting $\kappa \alpha \lambda о \cup \mu \varepsilon ́ v \eta$ ("so-called", four syllables) though well-testified; it is missing in codices $L \Psi$ and the majority text $(\mathfrak{R})$, and in old Syriac and Coptic versions. It seems to be an early anti-gnostic addition to indicate the blasphemy of the sentence. ${ }^{18}$ In 8:27 the second ő $\varsigma$ has been deleted following codex $א$ against B. ${ }^{19}$ Finally in $8: 33$, the first and bracketed [ $\alpha$ v่тov̂] has also been deleted, this time following the old witnesses $\mathfrak{P}^{74} \aleph$ A B and also Nestle ${ }^{25}$ as well as LXX (quote of Isa 53:8). Despite these reductions, the paragraph 8:4-13 is still too long by one syllable so that a 16th syllable has to be for once tolerated in its last line.

The central subsection tells Paul's conversion in five paragraphs (9:1-2, 3-9, $10-22,23-30,31$ ) measuring $6+14+38+21+5=84$ stichoi. ${ }^{20}$ This total equals $4 \times 21$ with the fourth paragraph, Paul's stay in Jerusalem, being a quarter of it. If we would divide the central part about Paul in Damascus into three paragraphs, the center then being Paul's baptism (9:17-19a), their sizes would measure $20+8+11=39$ or $3 \times 13$ stichoi. ${ }^{21}$ Unfortunately the three other para-

[^5]graphs are 25 stichoi, one stichos more than $3 \times 8$ which would nicely correspond to $3 \times 13$. In order to keep the total of this subsection within the proposed 84 stichoi, the bracketed [ $\dot{\varepsilon} v$ ópó $\mu \alpha \tau \tau]$ in 9:12 (five syllables) had to be deleted anyway, following codices $\mathfrak{P} \mathcal{7}^{74} \aleph$ A against B C. ${ }^{22}$

The third subsection about Peter's activity in Lydda and Joppa should be regarded as one paragraph, therefore without line break before 9:36. It measures 34 (33:09) stichoi, matching the modulus of the entire book.

The total of this major part is $92+84+34=210$ or $10 \times 21$ stichoi. The number 92 can be dissolved in this context as $4 \times 21+8$, the number 34 correspondingly as $1 \times 21+13$. The ratio of the middle subsection to the two others is $84 /$ 126 or $4 \times 21 / 6 \times 21$ or $2 / 3$. Even this simple ratio can be understood as a Fibonacci ratio.

### 2.4 The baptism of Cornelius (10:1-11:18)

The last major part of the first main section is a long coherent story consisting of three subsections (10:1-24a, 24b-48; 11:1-18). The first one tells about the parallel visions of Cornelius and Peter preparing their encounter in Caesarea in the second subsection, while the last one takes place after Peter's return to Jerusalem. The first one can be divided into three paragraphs (10:1-8, 9-16, 17-24a) whereas the two others consist of only one paragraph each. ${ }^{23}$ The size of the first subsection is $20+16+23=59$ stichoi, the sizes of the two others are 68 and 43 stichoi. ${ }^{24}$

The middle paragraph has been shortened by two syllables in 10:16. The adverb $\varepsilon \dot{\theta} \theta \dot{v} \varsigma$ (found in codices $P^{74} \mathrm{~N}$ A B C E etc.) "occurs nowhere else in Acts (though $\varepsilon \dot{\delta} \theta \dot{\varepsilon} \omega \varsigma$ occurs nine times)", and the alternative reading $\pi \dot{\alpha} \lambda \lambda \omega$ (of D L $\Psi \mathfrak{R}$ etc.) reflects "scribal assimilation to the parallel account in 11.10 ", therefore the reading without any adverb (in $\mathfrak{P}^{45}$, some minuscules and some manuscripts of old translations) is preferable. ${ }^{25}$ The paragraph 10:9-16 is still too long by one syllable so that the last line numbers 16 syllables again. Otherwise the two line breaks should be abandoned also in this subsection.

The total of this major part is $59+68+43=170$ or $5 \times 34$ stichoi. The ratio of the middle to the two other subsections is the same as in the previous major part: $68 / 102=2 \times 34 / 3 \times 34$. The odd numbers 59 and 43 can be dissolved as $34+25$ and $34+9$ in this context, 25 and 9 being squares of the Fibonacci numbers 5 and 3 .

[^6]
### 2.5 The total of the first main section (1:12-11:18)

According to this analysis the seven major parts add up to $45+125+156+156$ $+192+210+170=1054$ or $31 \times 34$ stichoi. By comparing these sizes, some subtotals are particularly remarkable. The first two major parts together and the last one are of the same size: 170 stichoi each or $5 \times 34 .{ }^{26}$ The three middle major parts together with the sixth one are $24 \times 21+10 \times 21=34 \times 21$ stichoi, a product of two Fibonacci numbers. It seems that the author defined this main section first by using the modulus of 34 stichoi, then these four major parts were designed in detail by applying the smaller modulus of 21 stichoi.

## 3. Third main section (19:23-28:31): Paul's passion

Because there are so many parallels between the first and last main sections in the formal structure as well as in the motifs, we will go straight on to the narrative of Paul's passion.

### 3.1 From Ephesus to Jerusalem (19:23-21:16)

The first and second major parts belong together here as well. The first, on the riot against Paul in Ephesus, consists of three paragraphs (19:23-28, 29-34, 3540) of about equal size: $19+17+18=54$ or $3 \times 18$ stichoi. ${ }^{27}$

The second major part is one of the we-passages and contains Paul's visitation and farewell journey through Greece to Jerusalem. It consists of three subsections as well (20:1-16, 17-38; 21:1-16). The first one, the journey as far as Miletus, can be divided into three paragraphs (20:1-6, 7-12, 13-16) if a 16 th syllable is accepted in the last line of $20: 6 ;{ }^{28}$ otherwise it should be seen as one paragraph like the two other subsections on Paul's farewell address in Miletus and on the residual journey. Their sizes are $46+57+47=150$ stichoi, whereby the long paragraph 20:17-38 is too long by one syllable as well. ${ }^{29}$ The ratio of the middle subsection and the two others is $57 / 93=0.6129 \ldots$, i.e. very close to the golden section. This can be explained when the numbers 57 and 93 are dissolved as $2 \times 21+5 \times 3$ and $2 \times 34+5 \times 5$, i.e. by the combination of the two Fibonacci ratios $21 / 34$ and $3 / 5$.Perhaps, if dissolved as $3 \times 19$ and $3 \times 31$, a sequence comparable to the Fibonacci sequence is revealed that can also be detected elsewhere in Acts, containing 19, 31, 50, 81, 131, 212.

[^7]The total of the two major parts is $54+150=204$ or $6 \times 34$ stichoi. In terms of the modulus 34 the two subtotals can be dissolved as $1 \times 34+4 \times 5$ and $3 \times 34+$ 6x8 stichoi. Yet as in 1:12-2:47 the two major parts seem to be calculated by the squares of 3 and 5 analogously: $6 \times 9+6 \times 25=6 \times 34$.

### 3.2 Paul's trial in Jerusalem and Caesarea (21:17-26:32)

The three middle major parts are apparently designed in the same way as the three middle parts of the first main section. The parallel content is demonstrated in a parallel form. The trial against Paul is presented in three steps.

The beginning takes place in Jerusalem and is structured by five subsections (21:17-26; 21:27-22:2a; 22:2b-21, 22-29; 22:30-23:11), the center being Paul's apologia before the people. The second and third subsections consist of three paragraphs each, the others of one; the lengths are $30+49+52+23+38=192$ or $24 \times 8$ stichoi. ${ }^{30}$ The second and fourth subsections tell about the protective custody commanded by the Roman tribune; they add up to $72=9 \mathrm{x} 8$ stichoi, the rest to $120=15 \times 8$, a ratio of $3 \times 3 / 3 \times 5$. For this result, the text in $23: 6$ has been shortened by the bracketed [ $\dot{\varepsilon} \gamma \omega \dot{]}$ ] following codices B C* gig, the Sahidic version, and Nestle ${ }^{25}$. In 22:16 a 16 th syllable is tolerated at the end of the paragraph, which could be avoided by regarding Paul's apologia (22:2b-21) as one single paragraph instead of three.

The major part about Paul's transfer to Caesarea can also be divided into five subsections (23:12-16, 17-32, 33-35; 24:1-23, 24-27), the second and fourth on the transfer up to Antipatris and on the hearing before governor Felix, consisting again of three paragraphs each. The sizes of the subsections are $16+48+8+56$ $+15=143$ or $11 \times 13$ stichoi. ${ }^{31}$ The two longer ones together measure $104=$ $8 \times 13$, the three others $39=3 \times 13$ stichoi.

The trial before governor Festus in the last of the middle major parts, is divided into five subsections, too, all consisting of one paragraph (25:1-12, 13-22, 23-27; 26:1-23, 24-32) and measuring $35+30+18+64+22=169$ or $13 \times 13$ stichoi. ${ }^{32}$ The first and second subsections on the trial in which Paul appeals to the emperor and on the visit of King Agrippa add up to $65=5 \times 13$ stichoi, the other three subsections on the hearing of Paul by Festus and Agrippa to $104=$

[^8]$8 \times 13$. Paul's apologia in itself measures $64=8 \times 8$. The ratios $5 / 8$ and $8 / 13$ are typical Fibonacci ratios again.

Thus the total of the three major parts is $192+143+169=504$ or $24 \times 21$ stichoi, the same total as in the three middle major parts of the first main section. Even the exact numbers differ only by 14 syllables, less than 1 stichos, being first 496:11, then 495:12 stichoi. The longest part, previously at the end, here at the beginning of the three major parts, measures $24 \times 8=192$ stichoi in both cases, the two others $24 \times 13=312$ together. The exact numbers are 190:13 + 305:13 and 189:07 $+306: 05$ stichoi. Such almost identical numbers of diverse corresponding passages cannot be arrived at by chance, but result from deliberate design.

### 3.3 From Caesarea to Rome (27:1-28:31)

The sixth major part of the third main section, a we-passage again, consists of three subsections (27:1-13, 14-44; 28:1-15): first the journey Caesarea to Crete, then the dramatic storm and shipwreck in five paragraphs, finally the journey Malta to Rome. The sizes are $38+80+42=160$ stichoi. ${ }^{33}$ It is remarkable that the central subsection has the same size as the two others together, measuring 80 stichoi or half of this major part. In this reconstruction, the bracketed [ $\dot{\varepsilon} \gamma \dot{\omega}]$ in 27:23 has been deleted following codices B C* $\Psi \mathfrak{R}$ and Nestle ${ }^{25}$ against $\mathfrak{P}^{74} \kappa$ A $\mathrm{C}^{2}$ so that paragraph 27:21-26 measures 12:14 stichoi instead of 13:01. The length of 13 stichoi could also be achieved by accepting a 16th syllable in the last line.
The last major part tells of Paul's meeting with the Jewish leaders in Rome, framed by two short notes on Paul's lodging (28:16, 17-28, 30-31). The three subsections measure $3+42+5=50$ stichoi, whereby again a 16th syllable is tolerated in the very last verse of the book. ${ }^{34}$ When the middle subsection is divided into three paragraphs, the first one $(28: 17-22)$ is half of its whole length with $20: 08$ or 21 stichoi, the other half being 20:02 exactly, i.e. shorter only by 6 syllables while the last subsection ( $28: 25-28$ ) makes up one third with 14 (13:11) stichoi.

The two parts together result in a total of $160+50=210$ or $10 \times 21$ stichoi. We have seen the identical size in the sixth major part of the first main section (8:4$9: 43$ ). It is certainly easier to explain such a parallel as the author's deliberate design than as being purely by chance.

[^9]
### 3.4 The total of the third main section (19:23-28:31)

When combining the three middle parts and the two major parts at the end, the long passage $21: 17-28: 31$ covers $504+210=714$ or $24 \times 21+10 \times 21=34 \times 21$ stichoi. It is the same sum and the same proportion as in three middle plus the sixth major parts of the first main section. By adding the two major parts at the beginning (19:23-21:16) we arrive at the total of this main section: $204+714=$ 918 or $6 \times 34+21 \times 34=27 \times 34$ stichoi.

## 4. Second main section (11:19-19:22): Paul's mission

In the central main section, we distinguish between three types of major sections. We begin our survey with the three pillars, so to speak, the smaller sections telling about decisive events in Jerusalem and Ephesus which are located at the beginning, in the center and at the end. The two missionary journeys inserted in between will follow. A look at the two short paragraphs at the very beginning and end will conclude our measurement before the results will be interpreted.

### 4.1 Three decisive events in Jerusalem and Ephesus

Peter's exodus from Jerusalem is told at the beginning in five paragraphs (11:27-30; 12:1-5, 6-17, 18-23, 24-25); they measure $10+12+40+17+5=84$ or $4 \times 21$ stichoi. ${ }^{35}$ The first and last paragraphs about Barnabas' and Paul's journey from and to Antioch are 10:01 and 4:01 stichoi exactly, the one has been rounded down to 10 , the other one up to 5 stichoi. The passage 12:1-17 about Peter's arrest and deliverance adds up to $52=4 \times 13$, the rest to $32=4 \times 8$ stichoi, again a ratio of Fibonacci numbers.

The apostles' council in Jerusalem forms the center of Acts. It consists of seven paragraphs (15:1-3, 4-6, 7-11, 12, 13-21, 22-29, 30-35) measuring $12+9$ $+15+4+20+23+11=94$ stichoi. ${ }^{36}$ Whereas the total 94 is not suitable for establishing remarkable proportions, the first five paragraphs reporting the council's proceedings add up to $60=5 \times 12$ stichoi (twice two of them to 24 stichoi). Yet the two last paragraphs containing the council's resolution lack one stichos each for also being multiples of twelve and adding up to $36=3 \times 12$. We deal with this observation later on.

Paul's successful stay in Ephesus is also told in five paragraphs (18:24-28; $19: 1-7,8-12,13-17,18-20)$. They add up to $17+16+15+17+7=72$ or $6 x 12$

[^10]stichoi, whereby it will be noted that in four of the five paragraphs exact counting results in full stichoi. ${ }^{37}$ Three of the paragraphs are dealing with Paul's mission, the two following with its effects on exorcists and magical practices, adding up to 48 and 24 stichoi respectively, a ratio of $2 / 1$.

The total of the three major parts is $84+94+72=250$ stichoi. If the middle one would number 96 stichoi, this would result in remarkable proportions: 12x7 $+12 \times 8+12 \times 6=12 \times 21=252$. We found similar ratios in the three middle major parts of the other two main sections: $24 \times 8+24 \times 13=24 \times 21=504$.

### 4.2 Two missionary journeys (13:1-14:28; 15:36-18:23)

We are beginning with the second journey because it is clearer in its stichometric structure. It consists of seven subsections, the first, middle and last ones forming one paragraph each, the four others three paragraphs each (15:36-41; $16: 1-15,16-40 ; 17: 1-15,16-34 ; 18: 1-17,18-23)$; together they measure $15+43$ $+68+45+55+46+16=288$ stichoi. ${ }^{38}$ The three subsections in the middle with Paul's deliverance in Philippi, the journey to Thessalonica and Beroea, and his speech in Athens, add up to $168=21 \times 8$ stichoi. The four others with the journey from Antioch to Philippi and from Corinth back to Antioch add up to $120=15 \times 8$ stichoi, the total being $36 x 8$. Presumably it is not by chance that the three subsections about the call to Europe and about Athens and Corinth (16:1$15 ; 17: 16-18: 17$ ) number 144 stichoi together, i.e. half the size of the major part, and the others 144 stichoi as well, of course. The size of the fifth, the Athens subsection, the sum of the second and sixth subsections (on the call to Europe and on Corinth), and the sum of the remaining four subsections represent three numbers belonging to the Fibonacci sequence: 55, 89, and 144 . Is this likely to be accidental?

The missionary journey of Paul and Barnabas can also be divided into seven subsections (13:1-3, 4-13, 14-43, 44-52; 14:1-20a, 20b-25, 26-28); the third and fifth of them, containing Paul's weighty speech to Jews in Antioch of Pisidia and the heavy opposition against his message in Iconium and Lystra, consist of five and three paragraphs, the others having only one. They measure $10+28+$

[^11]$80+23+51+13+7=212$ stichoi. ${ }^{39}$ This total is not a product of Fibonacci numbers as in the total of the other journey, but similar numbers are used as sizes of the subsections here. The two longer ones add up to $80+51=131$ stichoi, the five other subsections to 81 . The sequence $81,131,212$ forms a variant to the Fibonacci sequence $8,13,21$, and the ratio of two successive numbers is also approximating the golden ratio, see for instance $131 / 212=0.6179 \ldots$

The two journeys bring a total of $212+288=500$ stichoi. They are similarly structured in respect to form: two or three longer subsections and the others are in a ratio close to the golden ratio, by proportions based on Fibonacci numbers (in the second journey) or by those of a variant (in the first journey).

### 4.3 The short beginning and conclusion, and the total of the main section

The report about the beginnings of the congregation in Antioch (11:19-26) measures 24 (23:01) stichoi in one paragraph. The note on Paul's further plans (19:21-22) is $8(7: 01)$ stichoi. The two paragraphs add up to $32=4 x 8$ stichoi.

So we can summarize the seven parts of the second main section: $24+84+$ $212+94+288+72+8=782$ stichoi. This number is a multiple of 34 again, i.e. $23 \times 34$. Without beginning and conclusion, the five major parts add up to 250 $+500=750$ stichoi. This total can be dissolved as $6 \times 125=2 \times 3 \times 5 \times 5 \times 5$, but not as a multiple of the Fibonacci numbers 8,13 , or 21 , though the second and fifth major parts have been analyzed as $12 \mathrm{x} 7+12 \mathrm{x} 6=12 \mathrm{x} 13$, the fourth one as 36 x 8 stichoi. In the central major part about the apostles' council, as we have seen, two more than the counted 94 stichoi would perfectly fit to the two other smaller major parts: $96=12 \times 8$. All three would add up to $252=12 \times 21$ stichoi. This sum, understood as $36 \times 7$, would also perfectly fit with the sizes of the two missionary journeys if the total of the first one were 216 instead of 212 stichoi. For 216 equals $36 \times 6$, as 288 equals $36 x 8$. Then the five major parts would add up to $36 \times 21=756$ stichoi. What reasons may we imagine why the author, calculating the size of his book in a very sophisticated way as demonstrated, did not use these numbers?

Perhaps he needed more space for the two paragraphs at the beginning and end than the 26 stichoi that would have resulted from the difference between the totals of the entire main section and the five middle major parts: $782-756=26$ stichoi. It seems, however, that he barely managed to fill the provided 32 stichoi, for the exact numbers of the two paragraphs are just 23:01 and 7:01 stichoi.

Or did the author like to play with numbers by using not only the numbers of the Fibonacci sequence, but also those of a variant? Or was he fond of round

[^12]figures like 250 and 500? It is a remarkable coincidence that he used the cube of five in the calculation of the middle main section $\left(750=6 \times 5^{3}\right)-$ similar to the Pythagoreans who liked "to employ the principles of the cube in composing books on their doctrines" according to a note in Vitruvius. ${ }^{40}$ We do not know. Yet we can see that the author applied the same arithmetic unit in all three main sections, each time with a different variant. In the middle parts of the first and last main sections, the subtotal $24 \times 21=504$ stichoi is used as sum of $24 \times 13+$ $24 \times 8$, and $24 \times 13$ is dissolved first as $12 \times 13+12 \times 13$, then as $11 \times 13+13 \times 13$ stichoi. In the central main section, the five major parts (without beginning and end) may be calculated on the basis of $36 \times 21=756$ stichoi, i.e. one and a half times $24 \times 21$. In the original idea, this seems to be the sum of $36 \times 6+36 \times 7+$ $36 x 8$, whereby $36 \times 7=12 \times 21$ has been assigned to the three shorter parts, projected as $12 \times 7+12 \times 8+12 \times 6$, and the two major parts about the missionary journeys have been projected as 36 x 6 and 36 x 8 stichoi. In the finished book, two major parts are shortened, the central one by two stichoi, the part about the first journey by four stichoi, so that the five major parts add up to 750 instead of 756 stichoi.

## 5. Total stichometry of Acts

After the totals of all three main sections have been developed, beginning with the particular paragraphs, the total of the whole book can be established as well as the proportions between the main sections.

### 5.1 The counted and transmitted totals of Acts

The sum of the main sections together with the prologue is: $34+1054+782+$ $918=2788$ stichoi or $1 \times 34+31 \times 34+23 \times 34+27 \times 34=82 \times 34$. The gospel of Luke, the first book ad Theophilum, is slightly longer with $84 \times 34=2856$ stichoi. The two books of Luke are the longest ones among the books of the NT, followed by Matthew and John with their $78 \times 34=2652$ and $63 \times 34=2142$ stichoi. According to calculations presented by Theodor Birt already in 1882, books of about 2500-2900 stichoi belong to the larger format of prose books often used in works of history. ${ }^{41}$

How does the total of 2788 stichoi relate to the transmitted stichometric totals of Acts? The numbers found in manuscripts and old canon lists can be divided into two groups: on the one hand the round number 2600 and the exact numbers

[^13]2516,2524 , and $2583,{ }^{42}$ on the other hand the numbers 2800 and $2720 .{ }^{43}$ The elsewhere transmitted numbers $1600,3600,3700,4600$ as well as 1524,2556 may result from old scribal or modern reading errors; especially the thousands digit seems to be often mixed up. ${ }^{44}$ The difference between the two types can be ascribed to the two stichos definitions. Our total refers to the stichos of 15 syllables including paragraphs; when converted, 2788 equals 2613.75 stichoi of 16 syllables. The total of the exact counting, i.e. $2741: 12$ stichoi of 15 , equals 2570:07 stichoi of 16 syllables.

In the manuscripts, fifteen so-called nomina sacra are mostly abbreviated (unless used profanely), four of them consequently ( $\Theta E O \Sigma$, XPI $\Sigma$ TO $\Sigma$, KrPIO $\Sigma$, $\mathrm{IH} \Sigma \mathrm{O} \times \Sigma) .{ }^{45}$ By counting the abbreviations as 1 syllable each, 539 syllables are reduced in Acts for these four and 806 for all of them, equalling 35:14 / 33:11 and 53:11 / 50:06 stichoi respectively. ${ }^{46}$ Assuming original counting based on the stichos of 15 syllables and including only four abbreviations, we arrive at $2741: 12-35: 14=2705: 13$ stichoi. When the stichos of 16 syllables is used together with all abbreviations the result is $2570: 07-50: 06=2520: 01$ stichoi. In addition, the Byzantine text has some additions, five of them adding up to about

[^14]10 stichoi, ${ }^{47}$ so that our counting matches the transmitted totals of 2720 or 2516/24 stichoi very closely. The difference between the exact numbers 2516 and 2524 may be due to such different text versions.

### 5.2 Proportions in the overall structure of Acts

The multiples of 34 allow for establishing remarkable proportions. Without the prologue, the corpus of Acts covers $81 \times 34$ stichoi. The size of the last main section ( $27 \times 34$ ) is exactly one third: $81 / 3=27$. This result corroborates setting the main caesura before 19:23, dividing the narratives of Paul's mission and passion. It also confirms allocating the note about Paul's plans in 19:21-23 to the middle main section as a counterpart of 11:19-26.

The other main caesura at $11: 19$ results in a ratio of $31 \times 34 / 50 \times 34=0.62$. This is a ratio close to the golden section, though it is not based on Fibonacci numbers. Yet again, we see a variant sequence already mentioned in reference to Paul's journey from Ephesus to Jerusalem (20:1-21:16); it consists of almost the same numbers as found in the subtotals of the second missionary journey: 31, 50,81 . Already in the stichometry article of 1999 , I had registered that in Acts the first main section and the two others are in the golden ratio, at that time still on the basis of UBS lines. ${ }^{48}$ The question of how ancient authors are able to realize such sophisticated proportions, is answered now: it is possible on the basis of stichoi and by applying numbers of the Fibonacci and related sequences.

A special parallelism is obviously intended between the prologue and the first six major parts of the first main section on the one hand (1:1-9:43) and the third main section on the other (19:23-28:31). The two passages are of the same size, each measuring $27 \times 34=918$ stichoi in our reconstruction, and the exact counting differs only in three syllables: 902:05 stichoi in the first main section, 902:02 in the last one. Above we have already compared the identical sizes of four or five of the seven major parts in the two main sections (3:1-9:43; 21:17$28: 31)$. The two first major parts, in the first main section together with the prologue ( $1: 1-2: 47 ; 19: 23-21: 16$ ), add up to the same sum as well: $34+45+125=$ $54+150=204=6 \times 34$ stichoi. ${ }^{49}$ Again, it is the modulus of 34 stichoi that helps to structure the book of Acts perfectly.

### 5.3 Outline of Acts as summary

In the appendix below, the results are presented in table form. The structure resulting from the analysis of contents is presented in the middle column. The last

[^15]column lists the sizes of the main sections, major parts and subsections. The table gives an overview of the concentric composition of the entire book around chapter 15 as the axis of symmetry, and this can be seen in the concise description of contents as well as in the stichoi numbers.

Thus the table may help show how carefully the author has elaborated his opus even in respect to form. The numerical correspondences discovered throughout Acts justify the stichometrical approach and testify to the consequent design. The stichoi numbers are an objective evidence of the author's literary skill. They cannot be denied, merely ignored.

## Appendix: Structure of Acts in tabular form

| Acts Chapter | Part | Contents | stichoi |
| :---: | :---: | :---: | :---: |
| 1:1-11 | 0. | Prologue: Jesus' ascension | 34 |
| 1:12-11:18 | 1. | Jerusalem: Gentile mission founded by Peter | 1054 |
| 1:12-26 | 1.1 | Room upstairs: Election of Matthias | 45 |
| 2:1-47 | 1.2 | Pentecost: First missionary success | 125 |
| 2:1-4 | 1.21 | Believers: Speaking in tongues | 10 |
| 2:5-13 | 1.22 | Jews of all nations: Hearing different languages | 21 |
| 2:14-36 | 1.23 | Peter's sermon: Jesus Christ killed by men, raised by God | 63 |
| 2:37-43a | 1.24 | Audience: Conversion of 3000 | 18 |
| 2:43b-47 | 1.25 | First congregation: Summary of fellowship and increase | 13 |
| 3:1-4:31 | 1.3 | Conflict I: Arrest of Peter and John | 156 |
| 3:1-10 | 1.31 | Temple gate: Healing of a lame man | 26 |
| 3:11-26 | 1.32 | Solomon's portico: Peter's missionary sermon | 47 |
| 4:1-4 | 1.33 | Evening: Peter and John arrested | 9 |
| 4:5-22 | 1.34 | Synedrium: Preaching prohibited, the apostles released | 49 |
| 4:23-31 | 1.35 | Congregation: Prayer for the apostles | 25 |
| 4:32-6.7 | 1.4 | Conflicts II: Community of goods, arrest of all apostles | 156 |
| 4:32-35 | 1.41 | Congregation: Summary about community of goods | 12 |
| 4:36-5:11 | 1.42 | Exemplary sharing: Barnabas, not Ananias and Sapphira | 34 |
| 5:12-16 | 1.43 | Apostles: Summary about healing wonders | 14 |
| 5:17-42 | 1.44 | Synedrium: All apostles arrested | 74 |
| 6:1-7 | 1.45 | Internal conflict: Seven deacons elected | 22 |
| 6:8-8:3 | 1.5 | Conflict III: Stephen 's death by stoning | 192 |
| 6:8-15 | 1.51 | Synedrium: Stephen charged with blasphemy | 21 |
| 7:1-53 | 1.52 | Stephen: Apologia | 144 |
| 7:54-8:3 | 1.53 | Reaction: Stephen executed, congregation persecuted | 27 |
| 8:4-9:43 | 1.6 | Diaspora: Philip, Paul, Peter in Samaria, Damascus, Judea | 210 |
| 8:4-40 | 1.61 | Philip: Mission in Samaria, baptism of Ethiopian eunuch | 92 |
| 9:1-31 | 1.62 | Paul: Conversion near Damascus | 84 |
| 9:32-43 | 1.63 | Peter: Healing of Aeneas, raising of dead Tabitha | 34 |
| 10:1-11:18 | 1.7 | Caesarea: First Gentile baptism | 170 |
| 10:1-24a | 1.71 | Double vision: Peter called to Cornelius | 59 |
| 10:24b-48 | 1.72 | Caesarea: Peter's speech and baptism of Cornelius | 68 |
| 11:1-18 | 1.73 | Jerusalem: Gentile baptism defended by Peter | 43 |
| 11:19-19:22 | 2. | Antioch-Ephesus: Gentile mission realized by Paul | 782 |
| 11:19-26 | 2.1 | Antioch: Beginnings of congregation | 24 |
| 11:27-12:25 | 2.2 | Jerusalem: Peter's exodus from Herod's prison | 84 |
| 13:1-14:28 | 2.3 | Cyprus - Asia Minor: First missionary journey | 212 |
| 13:1-3 | 2.31 | Antioch: Barnabas and Paul commissioned | 10 |
| 13:4-13 | 2.32 | Cyprus: Before proconsul, magician blinded | 28 |
| 13:14-43 | 2.33 | Antioch of Pisidia: Missionary speech before Jews | 80 |
| 13:44-52 | 2.34 | Next Sabbath: Paul rejected by Jews, turning to Gentiles | 23 |
| 14:1-20a | 2.35 | Iconium-Lystra: Adored by Gentiles, persecuted by Jews | 51 |
| 14:20b-25 | 2.36 | Derbe-Perge: Visitation of the congregations | 13 |
| 14:26-28 | 2.37 | Antioch: Report about success among Gentiles | 7 |
| 15:1-35 | 2.4 | Jerusalem: Council accepting Gentile mission (axis) | 94 |


| 15:36-18:23 | 2.5 | Asia Minor - Greece: Second missionary journey | 288 |
| :---: | :---: | :---: | :---: |
| 15:36-41 | 2.51 | Antioch: Departure with Silas | 15 |
| 16:1-15 | 2.52 | Troas-Philippi: Europe as new mission field (we-passage) | 43 |
| 16:16-40 | 2.53 | Philippi: Arrest and release by Gentile authorities | 68 |
| 17:1-15 | 2.54 | Thessalonica-Beroea: Persecution by Jews | 45 |
| 17:16-34 | 2.55 | Athens: Missionary speech before Greek philosophers | 55 |
| 18:1-17 | 2.56 | Corinth: Conflict with Jews before proconsul Gallio | 46 |
| 18:18-23 | 2.57 | Ephesus-Jerusalem-Antioch: Return and new departure | 16 |
| 18:24-19:20 | 2.6 | Ephesus: Exodus from the synagogue, missionary success | 72 |
| 19:21-22 | 2.7 | Paul's plans: Via Greece and Jerusalem to Rome | 8 |
| 19:23-28:31 | 3. | Jerusalem-Rome: Gentile mission defended by Paul | 918 |
| 19:23-40 | 3.1 | Ephesus: Riot against Paul | 54 |
| 20:1-21:16 | 3.2 | Greece-Jerusalem: Visitation journey (we-passage) | 150 |
| 20:1-16 | 3.21 | Troas-Miletus: Eutychus raised from the dead | 46 |
| 20:17-38 | 3.22 | Elders of Ephesus: Paul's farewell address | 57 |
| 21:1-16 | 3.23 | Miletus-Jerusalem: Forebodings of death | 47 |
| 21:17-23:11 | 3.3 | Trial I: Arrest and apologia before Jews | 192 |
| 21:17-26 | 3.31 | James' house: Jewish-Christian opposition against Paul | 30 |
| 21:27-22:2a | 3.32 | Temple district: Paul seized as against law and temple | 49 |
| 22:2b-21 | 3.33 | Steps of barracks: Public apologia | 52 |
| 22:22-29 | 3.34 | Barracks: Paul proclaiming Roman citizenship | 23 |
| 22:30-23:11 | 3.35 | Sanhedrin: Dispute about resurrection | 38 |
| 23:12-24:27 | 3.4 | Trial II: Transfer to Caesarea | 143 |
| 23:12-16 | 3.41 | Next day: Jewish conspiracy against Paul | 16 |
| 23:17-32 | 3.42 | Tribune: Paul's nocturnal transfer | 47 |
| 23:33-35 | 3.43 | Caesarea: Delivery to governor Felix | 8 |
| 24:1-23 | 3.44 | Governor: Opening of trial | 56 |
| 24:24-27 | 3.45 | Two years: Felix followed by Festus | 15 |
| 25:1-26:32 | 3.5 | Trial III: Apologia before Festus and King Agrippa | 169 |
| 25:1-12 | 3.51 | Retrial: Paul's appeal to emperor | 35 |
| 25:13-22 | 3.52 | Agrippa's visit: Festus summarizing case | 30 |
| 25:23-27 | 3.53 | Hearing: Festus requesting Agrippa's advice | 18 |
| 26:1-23 | 3.54 | Paul's apologia: Witness for Christ among Gentiles | 64 |
| 26:24-32 | 3.55 | Conclusion: Plea of not guilty | 22 |
| 27:1-28:15 | 3.6 | Caesarea-Rome: Paul's odyssey (we-passage) | 160 |
| 27:1-13 | 3.61 | Caesarea-Crete: Difficult voyage | 38 |
| 27:14-44 | 3.62 | Open sea: Storm and shipwreck | 80 |
| 28:1-15 | 3.63 | Malta-Rome: Rescue and departure | 42 |
| 28:16-31 | 3.7 | Rome: Paul's witness before Jewish leaders | 50 |
| 28:16 | 3.71 | Arrival: Paul under house arrest | 3 |
| 28:17-28 | 3.72 | Jewish visitors: Witness to Jesus and Gentile mission | 42 |
| 28:30-31 | 3.73 | Two years: Unhindered preaching | 5 |
|  |  |  |  |
| 1:1-28:31 | 0.-3. | Book of Acts: Origin of the contested Gentile mission | 2788 |


[^0]:    ${ }^{1}$ See F.G. Lang, "Kompositionsanalyse des Markusevangeliums", ZThK 74 (1977) 1-24, at 17 n. 37.

[^1]:    2 See Lang, Kompositionsanalyse, 12-13, 16-18.

[^2]:    3 See F.G. Lang, "Schreiben nach Mass: Zur Stichometrie in der antiken Literatur", NovT 41 (1999) 40-57; idem, "Ebenmass im Epheserbrief: Stichometrische Kompositionsanalyse", NovT 46 (2004) 143-163.
    ${ }^{4}$ No line breaks: before Eph 6:1. 5. 23; two line breaks were transposed: from 4:25; 5:6 to 4:26; 5:1.
    5 Following the "important witnesses" cod. $\mathfrak{D}^{46} \kappa^{*}$ B* 1739 against all others; see B.M. Metzger, A Textual Commentary on the Greek New Testament (Corrected ed.; Stuttgart 1975) 601
    ${ }^{6}$ Cf. Lang, Ebenmass, 153-154 n. 26, 28 (already mentioned as a possible solution): besides the two transposed line breaks, one new line break: before Eph 4:16; no line break: before 6:23; UBS text shortened by eight other syllables in four bracketed words: Eph 4:9; 5:31; 6:1.
    7 See, however, the skepticism about my article in: G. Sellin, Der Brief an die Epheser (KEK 8; Göttingen 2008) 53: "Dass der Eph ästhetisches Ebenmaß verrät, ist nicht zu bezweifeln. Ob das aber derart ausgetüftelt ist, mag man in Frage stellen."

[^3]:    8 New line breaks before 1:4, 9; UBS line break deleted: before 1:6; exact numbers: 8:04 + $14: 09+9: 07=32: 05$ stichoi.
    9 New line break: before 1:23; 2:43b (instead of 43a). Exact numbers of 1:12-26: 10:13 + 23:08 + 9:05 = 43:11 stichoi; of 2:1-47: 9:05 + 20:05 + 61:05 $(22: 01+18: 06+20: 13)+$ $17: 11+12: 04=121: 00$.
    ${ }^{10}$ See facsimile under www.codexsinaiticus.org.
    ${ }^{11}$ Cf. Metzger, Commentary, 302: "exceedingly difficult to ascertain the original text".

[^4]:    ${ }^{12}$ Exact numbers: 47:00 $+48: 04 ; 25: 07+9: 00+24: 11$ stichoi. In 3:13 (LXX quote of Exod 3:6) the bracketed [ $\dot{0}$ $\theta \varepsilon$ ós] is twice deleted, the paragraph $3: 11-26$ shortened by 6 syllables, now being exactly 47:00 stichoi, following B E $\Psi 33 \mathfrak{R}$ Nestle ${ }^{25}$ (= short version, as in the parallel 7:32) against $\mathrm{D}^{74} \mathrm{~K} \mathrm{C}$.
    ${ }^{13}$ New line breaks: before $4: 36$; $5: 21 \mathrm{~b}, 27 \mathrm{~b}, 34,41$ (instead of 5:27a, 33); no line break: before 6:7. Exact numbers: 11:03 + 33:04 $(5: 00+15: 06+12: 13)+13: 04+72: 03(9: 10+$ $18: 12+15: 12+22: 10+5: 04)+21: 07$ stichoi.
    ${ }^{14}$ New line break: before 7:58b; exact numbers: $21: 00 ; 10: 00+7: 11+8: 11=26: 07$ stichoi.
    ${ }^{15}$ No line breaks: before 7:9, 23, 30, 44, 51; new line break: before 7:35.

[^5]:    ${ }^{16}$ No line breaks: before $8: 9,25,34$; exact numbers: $23: 01+29: 00+40: 00=92: 01$ stichoi.
    ${ }^{17}$ See Metzger, Commentary, 355-356: "difficult to decide".
    ${ }^{18}$ See W.M.L. de Wette, Kurze Erklärung der Apostelgeschichte (Kurzgef. Exeg. Handbuch zum NT 1/4; Leipzig 1838) 65.
    ${ }^{19}$ Witnesses in detail (cf. $\mathrm{NA}^{28}$ ): $\mathfrak{P ^ { 7 4 v i d }} \boldsymbol{N}^{*} \mathrm{AC} \mathrm{C}^{*} \mathrm{D}^{*} \mathrm{p}$ vg against $\mathfrak{J}^{50} \mathfrak{\aleph}^{2} \mathrm{BC}^{2} \mathrm{D}^{1} \mathrm{E}$ L etc. $\mathfrak{N}$.
    ${ }^{20}$ New line break: before 9:3; no line breaks: before 9:19b, 26 ; exact numbers: 5:11 $+13: 14$ $+37: 14+20: 12+4: 07=82: 13$ stichoi.
    ${ }^{21}$ Exact numbers: 19:05 $+7: 09+11: 00=37: 14$ stichoi.

[^6]:    ${ }^{22}$ Cf. Metzger, Commentary, 364: "balance of possibilities".
    ${ }^{23}$ Line break before 10:24b (instead of 23b); no line breaks: before 10:34, 44.
    ${ }^{24}$ Exact numbers: 19:13 $+16: 01+22: 04=58: 03 ; 67: 06 ; 42: 06$ stichoi.
    ${ }^{25}$ See Metzger, Commentary, 371: minority opinion explicitly recorded.

[^7]:    ${ }^{26}$ The exact numbers 164:11 and 168:00 differ only by 3:04 stichoi.
    ${ }^{27}$ New line breaks: before 19:29, 35; no line break: before 19:28; exact numbers: 18:12 + $16: 03+17: 03=52: 03$ stichoi.
    ${ }^{28}$ Exact numbers: 17:01 $+15: 13+12: 12=45: 11$ stichoi.
    ${ }^{29}$ No line breaks: before $20: 25,36 ; 21: 7,15$; exact numbers: $45: 11+57: 01+46: 07=149: 04$ stichoi.

[^8]:    ${ }^{30}$ New line breaks: before $22: 2 \mathrm{~b}, 11$ (instead of 12 ); no line breaks: before $22: 6,12 ; 23: 6,11$; exact numbers: 29:06 + 48:02 $(15: 03+16: 00+16: 14)+51: 12(25: 00+14: 01+12: 11)+$ $22: 02+38: 00=189: 07$ stichoi.
    ${ }^{31}$ New line breaks: before 23:17, 33; no line break: before 24:27; exact numbers: $15: 14+$ $45: 14(21: 03+20: 01+4: 10)+7: 06+54: 05(19: 02+29: 03+6: 00)+14: 10=138: 04$ stichoi.
    ${ }^{32}$ No line breaks: before $25: 6$; 26:12, 19; exact numbers: $34: 09+29: 10+17: 11+64: 00+$ 22:01 $=168: 01$ stichoi.

[^9]:    ${ }^{33}$ New line break: before 27:14 (instead of 13); no line breaks: before 27:9; 28:11; exact numbers: $37: 12+77: 02(15: 02+12: 14+15: 07+14: 04+19: 05)+41: 13=156: 12$ stichoi.
    ${ }^{34}$ New line break: before $28: 25$; exact numbers: 2:05 $+40: 10+5: 01=48: 01$ stichoi.

[^10]:    ${ }^{35}$ No line break: before 12:20; exact numbers: 10:01 $+12: 00+39: 13+16: 11+4: 01=82: 11$ stichoi.
    ${ }^{36}$ New line breaks: before 15:4, 7 (instead of 6), 13 ; exact numbers: 11:14 $+8: 11+14: 01+$ $3: 03+19: 08+22: 12+10: 12=91: 01$ stichoi.

[^11]:    ${ }^{37}$ New line breaks: before 19:13 (instead of 11), 18; exact numbers: 17:00 $+15: 04+15: 00+$ 17:00 + 7:00 = 71:04 stichoi. In 19:8 the bracketed [ $\tau \dot{\alpha}$ ] has been deleted following B D $\Psi$ Nestle ${ }^{25}$ against $\boldsymbol{\aleph}$ A E $\mathfrak{N}$.
    ${ }^{38}$ New line breaks: before $16: 13 ; 18: 7$, 18 (instead of $16: 11 ; 18: 5$ ); no line break: before 17:10; exact numbers: $14: 12+42: 12(13: 13+17: 14+11: 00)+67: 09(26: 13+23: 14+$ $16: 12)+45: 00+53: 12(18: 10+28: 13+6: 04)+45: 14(18: 01+12: 13+15: 00)+15: 05=$ 285:04 stichoi.

[^12]:    ${ }^{39}$ New line breaks: before 13:14, 17 (instead of 13, 16b), 38; 14:20b (instead of 20a), 26; exact numbers: $9: 10+27: 12+77: 13(9: 11+24: 00+28: 06+9: 07+6: 04)+23: 00+50: 11$ $(16: 12+28: 14+5: 00)+12: 13+6: 14=208: 13$ stichoi.

[^13]:    ${ }^{40}$ See Vitruvius, Arch. 5, preface 3: cybicis rationibus praecepta in voluminibus scribere; cf. Lang, Schreiben, 56 n. 90.
    ${ }^{41}$ See T. Birt, Das antike Buchwesen in seinem Verhältnis zur Literatur (Berlin 1882; repr. Aalen 1974) 311; cf. e.g. 331: totals of the books of Livius. Birt's calculations are based on printed lines of modern text editions and an average stichos of 35 letters, see 310 n .1 .

[^14]:    ${ }^{42}$ For 2600 see C. Markschies, 'Haupteinleitung', AcA 1/1 (Tübingen 2012) 126: Catalogus Claromontanus. For 2516, 2524 see T. Zahn, Geschichte des Neutestamentlichen Kanons 2/1 (Erlangen/Leipzig 1890) 393-395, table with n. 5: several codices. For 2583 see: subscription in cod. 97 (checked personally in 1986), cf. Die Handschriften der Herzoglichen Bibliothek zu Wolfenbüttel, vol. 9 (Wolfenbüttel 1913) 67.
    ${ }^{43}$ For 2800 see E. Klostermann, Analecta (Leipzig 1895), 82: Cod. Barberini gr. 317 (11th cent.: commentaries to the Biblical books containing stichometrical notes); W. Lüdtke, "Die Stichometrie der Bibel nach Ananias von Širak", ZfB 30 (1915) 216-220, at 219: Armenian list (7th cent.); Markschies, $A c A$ 1/1, 142: stichometry of Nicephorus (c. 800); D. Serruys, "Anastasiana", MEFR 22 (1902) 157-207, at 201: stichometry of Anastasios Sinaita (7th cent.); Zahn, Geschichte 2/1, 395: canon list of Anonymus Arevali. For 2720 see Markschies, 133: Syriac list from Sinai.
    ${ }^{44}$ For all numbers see Zahn, Geschichte 2/1, 394-395 table with several notes. For 3600 see also C.H. Turner, "An Unpublished Stichometrical List from the Freisingen MS of Canons", JTS 2 (1902) 236-253, at 242 . The number 1524, taken over by Zahn from the NT edition of Scholz (1830/36), is misread in Cod. 104 where clearly 2524 is written. The number 2556 is documented twice in the Euthalian Cod. 181, first as a puzzling marginal note to 28:23 (not as subscription!), then in a stichometric index, see L.A. Zacagnius, Collectanea monumentorum veterum ecclesiae Graecae et Latinae, vol. 1 (Roma 1698) 474, 513 - it is not possible to clarify its origin.
    ${ }^{45}$ See T. Bokedal, "Notes on the Nomina Sacra and Biblical Interpretation", in H. Assel, S. Beyerle, C. Böttrich (eds.), Beyond Biblical Theologies (WUNT 295; Tübingen 2012) 263295.
    ${ }^{46}$ Cf. K. Aland, Vollständige Konkordanz zum griechischen Neuen Testament, vol. 2 (Berlin 1978).

[^15]:    ${ }^{47}$ See 18:21 (23 syllables); 20:15 (9); 24:6b-8a (66); 28:16 (28); 28:29 (29), together 155 syllables $=10: 05 / 9: 11$ stichoi.
    ${ }^{48}$ See Lang, Schreiben, 40-41: $900 / 1457$ UBS $^{3}$ lines $=0.6177 \ldots$
    ${ }^{49}$ The exact numbers differ here by 4:09 stichoi: 196:13-201:07.

